



The invention is therefore claimed as follows:

1. A material-handling unit with a frame which comprises a horizontally disposed structure with a plurality of longitudinal members, a plurality of cross-frame members, and a plurality of receivers where said receivers can quickly receive and rigidly affix

- A. Wheel assemblies
- B. Outriggers
- C. Receiver for a pallet jack
- D. A crane beam assembly
- E. Load carriers.

2. The frame of Claim 1 wherein said cross members consist of a tubular structure and are extended through said longitudinal members thus providing a tunnel through which straps and similar objects may pass and then secure the load.

3. A method of securing a load to the material-handling unit frame of Claim 2 where the method comprises the steps of

- A. Running a strap or straps through the tubular cross members
- B. Placing a load onto the material-handling unit frame
- C. Securing the load to the frame with the strap by wrapping or tying the load and tightening the strap.

4. The material-handling unit of Claim 1 with the additional limitation that the cross-frame members are composed of square or rectangular structural tubing.

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5. A crane beam assembly which is constructed with a plurality of corner members running parallel to the central longitudinal axis of said crane beam assembly and the corner members are attached to cross-member spacers that have therein at least one female receiver and are capable of receiving

- A. Lifting crane beam
- B. Coupling mechanism
- C. An outrigger assembly

and said crane beam assembly has a male insert to be fitted in to and rigidly attached to the horizontally disposed structure of Claim 1.

6. The crane beam assembly of Claim 5 with the additional limitation that the crane beam is affixed to the horizontally disposed backbone beam dolly of Claim 1 in a substantially perpendicular orientation to the longitudinal axis of the backbone beam dolly.

7. A horizontally disposed dolly with at least 2 pairs of wheels and a removable mechanism that extends vertically above the dolly and makes it possible to rigidly affix said horizontally disposed dolly to the backbone beam dolly of Claim 1.

8. A pallet jack receiver which can be affixed to a receiver of said backbone beam dolly of Claim 1 where said receiver is capable of receiving the forks of the pallet jack and allowing the receiver to swivel so that the pallet jack can lift one end and move the backbone beam dolly along any desired path and across significant distances.

9. A method of moving freight with a combination of the backbone beam dolly of

Claim 1 and a pallet jack wherein said method comprises the steps as follows:

- A. Affix the backbone beam dolly of Claim 1 with a wheel assembly with a plurality of wheels near one end and with a pallet jack receiver near the other end
- B. Place and secure the load onto the back bone beam dolly equipped with load receivers
- C. Insert the pallet jack forks into the pallet jack receiver
- D. Use the pallet jack to lift the backbone beam dolly and the load
- E. Move the combination of the load, the backbone beam dolly and the pallet jack along a desired path to the location desired
- F. Remove load.

10. The method of moving freight as described in Claim 9 with the additional steps of:

- A. Rigidly affix an outrigger in a direction which is close to perpendicular to the longitudinal axis of the backbone beam dolly
- B. Rigidly affix a rotationally moveable arm to the backbone beam dolly
- C. Attach a hoisting mechanism to the rotationally moveable arm
- D. Use the rotationally moveable arm with hoisting mechanism attached to load and remove loads from and onto the backbone beam dolly.

11. A method of constructing a wheel assembly to be used with backbone beam dolly of Claim 1, wherein said method comprises the steps of:

A. Rigidly affixing two four-wheelers horizontally disposed dollies to a dual dolly mechanism

B. Rigidly affixing the dual dolly-coupling unit described in Step A, to the backbone beam dolly.

12. A rigid mechanical frame which is capable of having the lower portion rigidly attached to the frames of a plurality of four-wheeler dollies and the upper portion of said mechanical frame rigidly attached to the backbone beam dolly of Claim 1, wherein said rigid mechanical frame and four-wheeler dollies function as a wheel assembly.

13. The backbone beam dolly of Claim 1 fitted with an outrigger on one end and the crane beam assembly of Claim 5 fitted with a horizontal arm rotationally hinged at the end affixed to said crane, where said lifting arm is capable of moving in a horizontal plane and a hoisting mechanism attached at the movable end, wherein such combination of units is capable of lifting a load positioned near the backbone beam dolly with the hoist and moving the horizontal arm so the load is positioned over the backbone beam dolly and may be lowered onto the backbone beam dolly for transport.

14. The crane beam assembly of Claim 5 with the additional limitation of the female receivers are constructed of rectangular or square tube.

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15. A ground engaging foot mechanism with an insert that is capable of rigid attachment to the backbone beam dolly and a plurality of adjustable ground engaging feet.

16. A method of hoisting freight onto a truck or other vehicle equipped with a landing gear dolly wherein said method comprises the steps as follows:

- A. Affix the backbone beam dolly of Claim 1 with at least one ground engaging foot mechanism
- B. Position the backbone beam dolly underneath the landing gear dolly
- C. Hoist the backbone beam dolly with a hoisting mechanism with one end attached to the truck and the other end attached to the backbone beam dolly until a wheel assembly is well clear of the ground
- D. Extend and pin the ground engaging feet
- E. Relax tension on the hoist
- F. Extend the landing gear dolly from the vehicle downward until the backbone beam is solidly held in place by force from the landing gear dolly and a reciprocal force from the ground engaging feet
- G. Use the crane beam assembly of Claim 5 with a lifting crane beam to load and unload freight onto and from the vehicle bed.